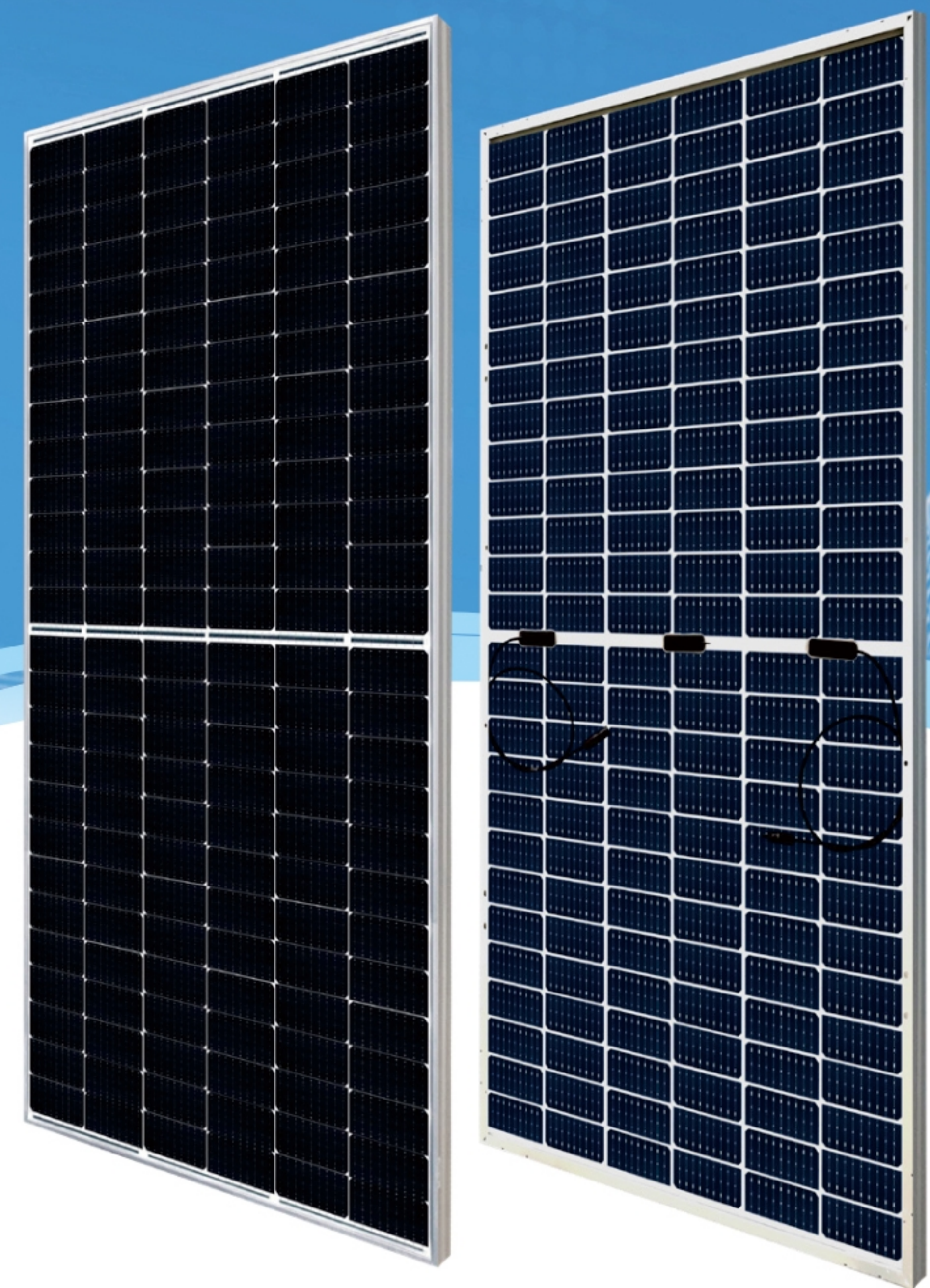




TUNGHSU

Su Egret 166 Series

156 CELL DOUBLE GLASS MULTI-BUSBAR MONOCRYSTALLINE



470-490W POWER RANGE

Tunghsu components with high efficiency and high reliability

- * Advanced production equipment, highly automated process control, world-class production technology
- * The company has a product research and development laboratory that meets the new ISO/IEC international standards
- * Excellent weak light performance, resistant to salt spray and ammonia corrosion.

Passing the certification test of the PV standards.

- * Certified by international quality management and environmental management system
- * Application grade:A, Safe grade: II, Fireproofing grade:C

Comprehensive Products And System Certificates

IEC61215/IEC61730/UL1703/IEC61701/IEC62716

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO 45001: Occupation Health and Safety Management System

GB/T 23001-2017: Management system with Integration of Information Technology and Industrialization



High power output

Double-sided power generation, higher power generation of the module
Up to 490w front power and 20.5% module efficiency with half-cut and MBB
Reduce BOS cost with higher power bin and 1500V system voltage



Higher power generation

Lower temperature coefficient (-0.35%) and lower working temperature bring more power generation
Half-cell technology brings stronger anti-shadow occlusion ability



Highly reliable due to stringent quality control

In-house testing goes well beyond certification requirements
(UV, TC, HF, PID resistant and many more)

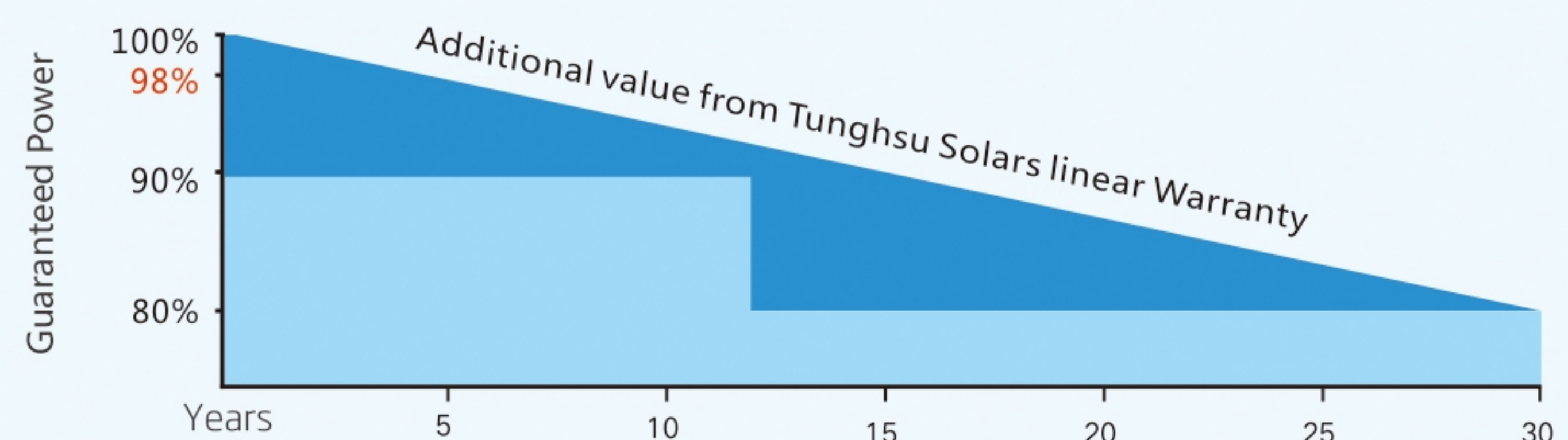


Certified to withstand the most challenging environmental conditions

2400 Pa wind load
5400 Pa snow load

LINEAR PERFORMANCE WARRANTY

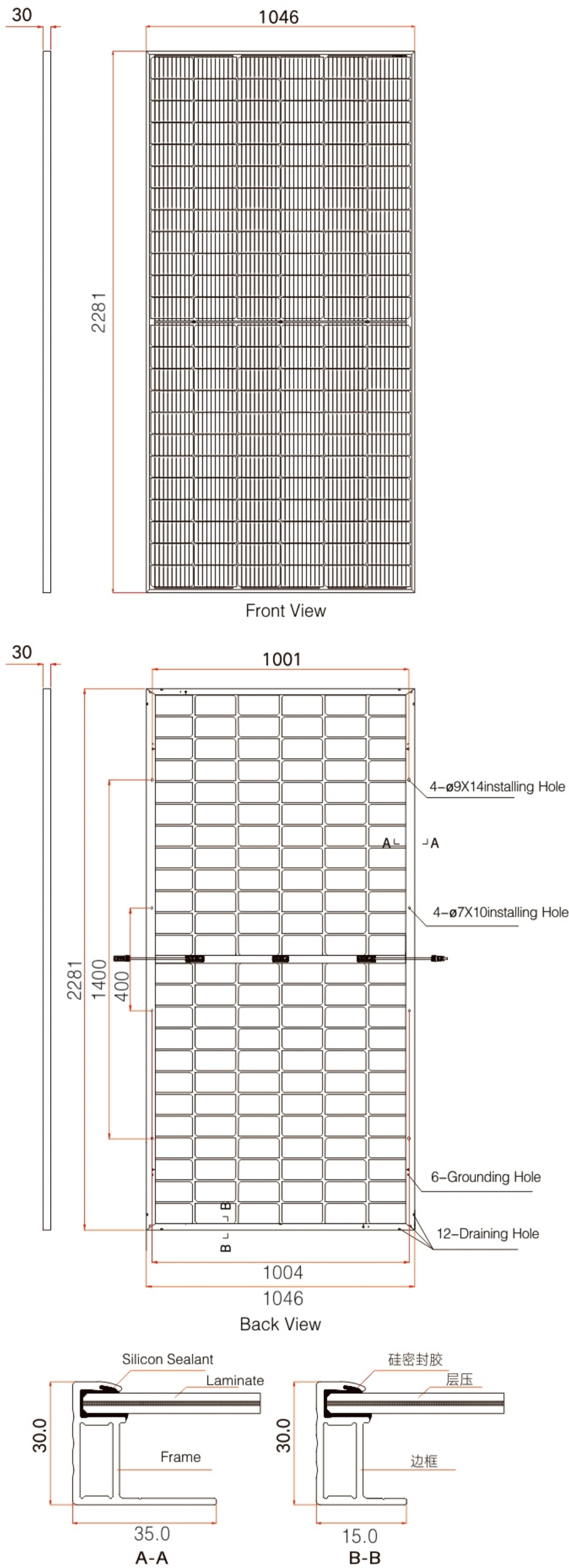
* 10Year Product Warranty * 30Year Linear Power Warranty



TUNGHSU standard

Industry standard

DIMENSIONS OF PV MODULE(mm)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)	470	475	480	485	490
Power Output Tolerance- P_{MAX} (W)	0~+5				
Maximum Power Voltage- V_{MPP} (V)	44.2	44.5	44.8	45.1	45.4
Maximum Power Current- I_{MPP} (A)	10.64	10.68	10.72	10.76	10.80
Open Circuit Voltage- V_{OC} (V)	52.8	53.0	53.2	53.5	53.7
Short Circuit Current- I_{SC} (A)	11.30	11.34	11.38	11.42	11.46
Module Efficiency η_m (%)	19.7	19.9	20.1	20.3	20.5

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.

ELECTRICAL PARAMETERS AND DIFFERENT POWER GAIN BACK (480W)

Maximum Power- P_{MAX} (Wp)	504	528	552	576	600
Maximum Power Voltage- V_{MPP} (V)	44.8	44.8	44.8	44.8	44.8
Maximum Power Current- I_{MPP} (A)	11.25	11.79	12.32	12.86	13.39
Open Circuit Voltage- V_{OC} (V)	53.3	53.4	53.5	53.6	53.7
Short Circuit Current- I_{SC} (A)	11.94	12.51	13.08	13.65	14.22
Power gain (%)	5%	10%	15%	20%	25%

ELECTRICAL DATA (NOCT)

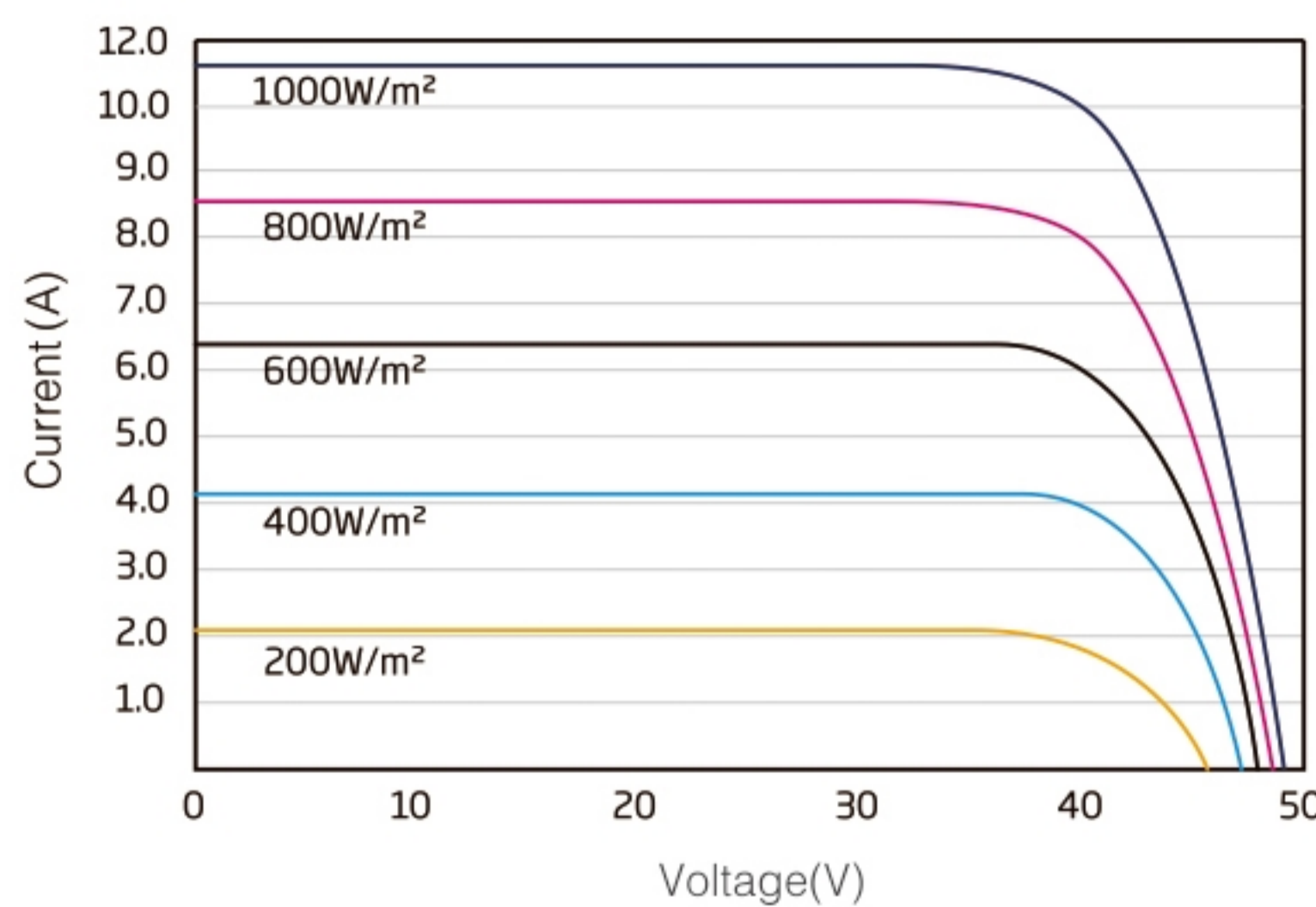
Maximum Power- P_{MAX} (Wp)	355	359	363	367	371
Maximum Power Voltage- V_{MPP} (V)	41.6	41.9	42.2	42.5	42.7
Maximum Power Current- I_{MPP} (A)	8.53	8.57	8.60	8.64	8.69
Open Circuit Voltage- V_{OC} (V)	49.9	50.1	50.3	50.5	50.7
Short Circuit Current- I_{SC} (A)	9.10	9.13	9.16	9.19	9.22

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

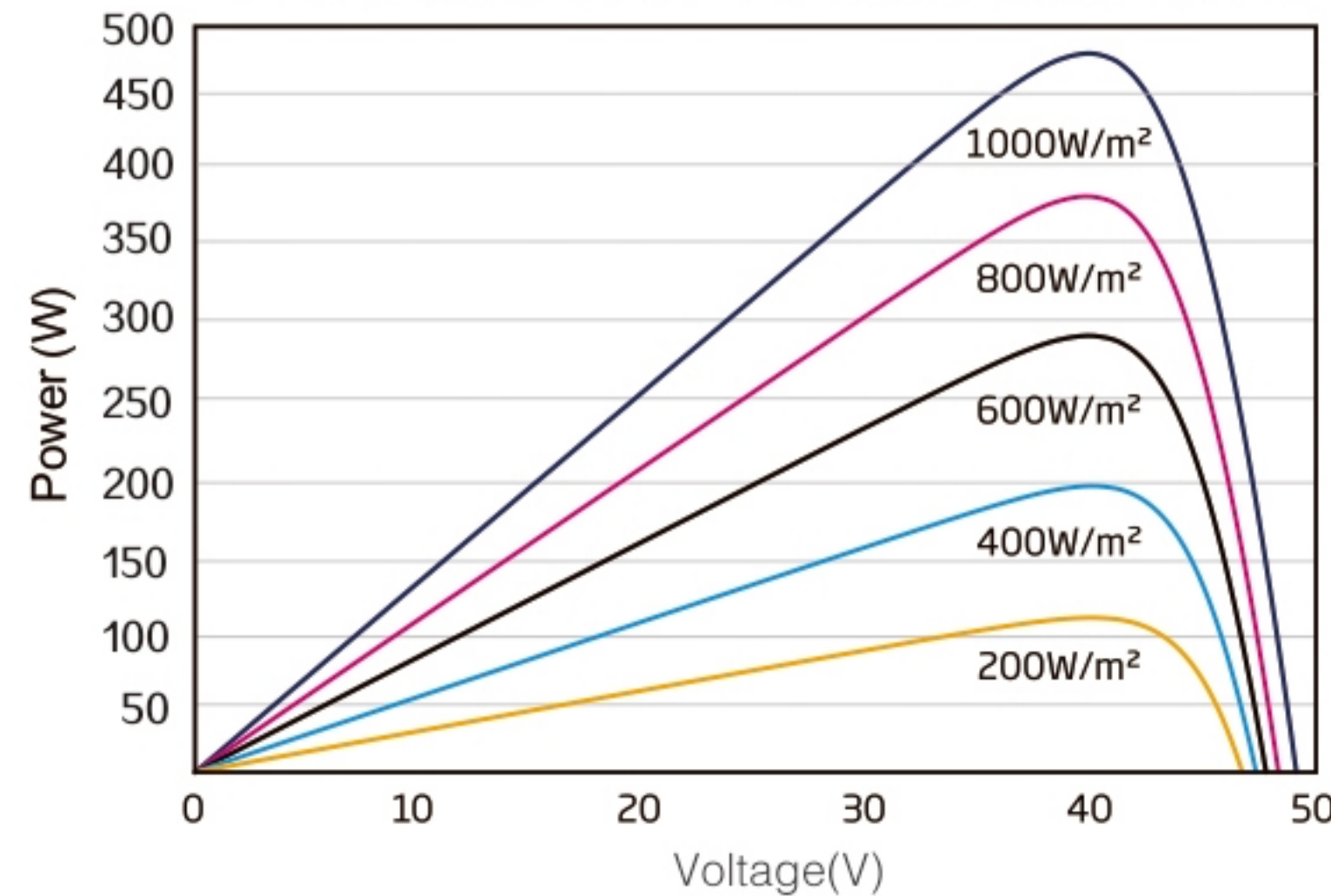
MECHANICAL DATA

Solar Cells	Monocrystalline(166 × 166mm)
Cell Orientation	156 cells (6 × 26)
Module Dimensions	2281x1046x30mm (89.80 × 41.18 × 1.18 inches)
Weight	30kg(80.38lb)
Front Glass	2.0mm (0.08inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	POE/EVA
Rear Glass	2.0mm(0.08inches) heat strengthened glass (white grid)
Frame	30mm (1.18 inches) Anodized Aluminium Alloy
J-Box	Ip67 or IP 68 rated
Cables	4.0mm ² , 350mm photovoltaic special cable, or customized
Connector	MC4, QC4

I-V CURVES OF PV MODULE(480W)



P-V CURVES OF PV MODULE(480W)



NOCT(Nominal Operating Cell Temperature)	41°C (±3°C)
Temperature Coefficient of P_{MAX}	-0.36%/°C
Temperature Coefficient of V_{OC}	-0.26%/°C
Temperature Coefficient of I_{SC}	0.04%/°C

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	20A

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

- 10 year Product Workmanship Warranty
- 30 year Linear Power Warranty

PACKAGING CONFIGURATION

- Modules per box: 35 pieces
- Modules per 40' container: 700 pieces

Note: Please read the safety and installation instructions before using the product. Anhui Tunghsu Kangtu Solar Technology Co., Ltd. All rights reserved. Specifications of this data sheet are subject to change without further notice.

